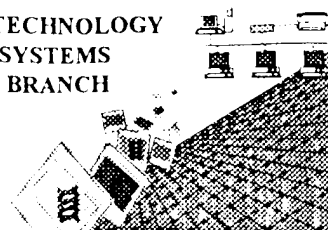


BIOTECHNOLOGY  
SYSTEMS  
BRANCH



**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/005,338A  
Source: O/E  
Date Processed by STIC: 6/5/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER**  
**VERSION 3.1 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom:

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202



OIIPE

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

Does Not Comply  
Corrected Diskette Needed

pp 3-4,6,8

3 <110> APPLICANT: DENEFLÉ, Patrice  
4 ROSIER-MONTUS, Marie-Francoise  
5 PRADES, Catherine  
6 ARNOULD-REGUIGNE, Isabelle  
7 DUVERGER, Nicolas  
8 ALLIKMETS, Rando  
9 DEAN, Michael  
11 <120> TITLE OF INVENTION: NUCLEIC ACIDS OF THE HUMAN ABCA5, ABCA6, ABCA9, AND ABCA10  
GENES, VECTORS  
12 CONTAINING SUCH NUCLEIC ACIDS, AND USES THEREOF  
14 <130> FILE REFERENCE: ABCA5, 6, 9, 10  
16 <140> CURRENT APPLICATION NUMBER: US 10/005,338A  
18 <141> CURRENT FILING DATE: 2001-12-07  
20 <150> PRIOR APPLICATION NUMBER: US 60/263,231  
21 <151> PRIOR FILING DATE: 2001-01-23  
23 <150> PRIOR APPLICATION NUMBER: FR 00403440.1  
24 <151> PRIOR FILING DATE: 2000-12-07  
26 <160> NUMBER OF SEQ ID NOS: 217  
28 <170> SOFTWARE: PatentIn Ver. 2.1

## ERRORED SEQUENCES

30 <210> SEQ ID NO: 1  
31 <211> LENGTH: 6525  
32 <212> TYPE: DNA  
33 <213> ORGANISM: Homo sapiens  
35 <400> SEQUENCE: 1

36 aaaatgttga ttttttctct tagcaggctg tcaaccaggt taggttcagg tcataagttt 60  
37 ctaccacat tctttgaact gtagttgtca ttttagttta tttttcaaaa acttttgcag 120  
38 tacctttttg gtctgtcttg tgtgtgcctt gcagtgaaca gtctggattt ggacagtgg 180  
39 ctgtctgtta gttcagtttc tcaagccttt gtcacactaa taggattgga tttatgtatg 240  
40 tccagcttgg gaattattac aggaattaaa aacaactttt tagagtgcct tcttgagctc 300  
41 tctttctatt tgttccccct tctacttttt gcttccctgt ggctgctgtt tctatcctcc 360  
42 agccagagag ctagtgttta ttttctccat tgtgttacac acttgtgcag ctgcaaccac 420  
43 catatccagg gcccaatggt aggaggtaga gaagaaaagc aaaagggtt ggccctcatcc 480  
44 tcttacaacg atagttccat tgaatagaga gaaaggtttt cctgcctcag agtggtggct 540  
45 gcaactaggct tttgttactg tagtctggcc ctgttaccat gggattgctt gcatgtggg 600  
46 atacaggaga attcagaaaa gaaaaaaaga tttgtattt ctacattctc cctgagcatt 660  
47 aagacctccc ttgcbcatte ctcaattcaa agctaaggct tcttctggag ctgcctctgt 720  
48 gggcggttcg ggagatacca aaggagaaaa agtaccactg ttgatattgt ggtatttcaa 780  
49 attctggtct accctatttc acatgccttg tttacttttc agagctgaca gattgctgct 840  
50 ccatgcattc tgtccagttt cctaagagag acagcttggg gtatgcttaa tccatcttac 900  
51 ctgggactga aacagctgct tttttgccc ttaaaaatta catgcagttt actgcgtggc 960

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

```

52 tccgggtttg tttgtttgtt tttcctcttt aatagggttta ttcagaaaac atgtccactg 1020
53 caattagggg ggtaggagtt tggagacaga ccagaacact tctactgaag aattacttaa 1080
54 ttaaatgcag aaccaaaaag agtagtggtc aggaaattct ttttccacta ttttttttat 1140
55 tttggttaat attaattagc atgatgcac caaataagaa atatgaagaa gtgcctaata 1200
56 tagaactcaa tcctatggac aagtttactc tttctaattc aattcttgga tatactccag 1260
57 tgactaatat tacaagcagc atcatgcaga aagtgtctac tgatcatcta cctgatgtca 1320
58 taattactga agaataatac aatgaaaaag aaatgttaac atccagtctc tctaagccga 1380
59 gcaactttgt aggtgtggtt ttcaaagact ccatgtccta tgaacttcgt ttttttcttg 1440
60 atatgattcc agtatcttct atttatatgg attcaagagc tggctgttca aaatcatgtg 1500
61 aggctgtcca gtactgggtc tcagggtttc cagttttaca agcatccata gatgtgccca 1560
62 ttatacagtt gaagaccaat gtttctcttt ggaaggagct ggagtcaact aaagctgtta 1620
63 ttatggggaga aactgctgtt gtagaaatag atacctttcc ccgaggagta attttaatat 1680
64 acctagttaa agcatttttc ccttttggat actttttggc aattcatatc gtagcagaaa 1740
65 aagaaaaaaa aataaaagaa tttttaaaga taatgggact tcatgatact gccttttggc 1800
66 tttcctgggt tcttctatat acaagtttaa ttttcttat gtcccttctt atggcagtca 1860
67 ttgcgacagc ttctttgtta tttcctcaaa gtagcagcat tgtgatattt ctgctttttt 1920
68 tcttttatgg attatcatct gtattttttg ctttaattgt gacacctctt tttaaaaaat 1980
69 caaacatgtt gggaaatagt gaattttttg ttactgtggc ttttggattt attggcctta 2040
70 tgataatcct catagaaagt tttcccaaat cgttagtggt gcttttcagt cctttctgtc 2100
71 actgtacttt tgtgattggt attgcacagg tcatgcattt agaagatttt aatgaagggtg 2160
72 ctccattttc aaatttgact gcaggcccat atcctctaatt tattacaatt atcatgctca 2220
73 cacttaatat tatattctat gtccctcttg ctgtctatct tgatcaagtc attccagggg 2280
74 aatttggttt acggagatca tctttatatt ttctgaagcc ttcataattg tcaaagagta 2340
75 aaagaaatta tgaggagtta tcagagggca atgttaattg aaatattagt tttagtgaag 2400
76 ttattgagcc agtttcttca gaattttagt gaaaagaagc cataagaatt agtggatttc 2460
77 agaagacata cagaaagaag ggtgaaaatg tggaggcttt gagaaatttg tcatttgaca 2520
78 tatatgaggg tcagattact gccttacttg gccacagtgg aacaggaaag agtacattga 2580
79 tgaatattct ttgtggactc tgcccacctt ctgatgggtt tgcattctata tatggacaca 2640
80 gagtctcaga aatagatgaa atgtttgaag caagaaaaat gattggcatt tgtccacagt 2700
81 tagatataca ctttgatgtt ttgacagtat aagaaaaatt atcaattttg gcttcaatca 2760
82 aagggatacc agccaacaat ataatacaag aagtgcagaa ggttttacta gatttagaca 2820
83 tgcagactat caaagataac caagctaaaa aattaagtgg tggtcaaaaa agaaagctgt 2880
84 cattaggaat tgcgtttctt gggaacccaa agatactgct gctagatgaa ccaacagctg 2940
85 gaatggaccc ctgttctoga catattgtat ggaatctttt aaaatacaga aaagccaatc 3000
86 ggggtgacagt gttcagtact catttcatgg atgaagctga cattcttgca gataggaaag 3060
87 ctgtgatata acaaggaatg ctgaaatgtt ttggttcttc aatgttcttc aaaagtaaat 3120
88 gggggatcgg ctaccgcttg agcatgtaca tagacaaata ttgtgccaca gaatctcttt 3180
89 ctccactggt taaacaacat atacctggag ctactttatt acaacagaat gaccaacaac 3240
90 ttgtgtatag cttgcctttc aaggacatgg acaaattttc aggtttgttt tctgccttag 3300
91 acagtcattc aaatttgggt gtcatttctt atggtgtttc catgacgact ttggaagacg 3360
92 tattttttaa gctagaagtt gaagcagaaa ttgaccaagc agattatagt gtatttactc 3420
93 agcagccact ggaggaagaa atggattcaa aatcttttga tgaatggaa cacagcttac 3480
94 ttattctttc tgaaccaag gcttctctag tgagccacct gagccttttg aaacaacaga 3540
95 tgtatacaat agcaaagttt catttcttta ccttgaaacg tgaaagtaaa tcagtgaagat 3600
96 cagtgttget tctgctttta atttttttca cagttcagat ttttatgttt ttggttcac 3660
97 actcttttaa aaatgctgtg gttcccatca aactgttcc agacttatat tttctaaaac 3720
98 ctggagacaa accacataaa taaaaacaa gtctgcttct tcaaaattct gctgactcag 3780
99 atatcagtga tcttattagc tttttcaca gccagaacat aatggtgacg atgattaatg 3840
100 acagtgacta tgtatccgtg gctcccata gtgcggcttt aaatgtgatg cattcagaaa 3900

```

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

E--> 101 aggactatgt ttttgcagct gttttcaaca gtactatggt ttattcttta cctatatattag 3960  
 102 tgaatatcat tagtaactac tatctttatc attttaatgt gactgaaacc atccagatct 4020  
 103 ggagtacccc attctttcaa gaaattactg atatagtttt taaaattgag ctgtattttc 4080  
 104 aagcagcttt gcttggaatc attgttactg caatgccacc ttactttgcc atggaaaatg 4140  
 105 cagagaatca taagatcaaa gcttatactc aacttaaact ttcaggtctt ttgccatctg 4200  
 106 catattggat tggacaagct gttgttgata tccccattatt ttttatcatt cttattttga 4260  
 107 tgctaggaag cttactggca tttcattatg gattatattt ttatactgta aagttccctg 4320  
 108 ctgtggtttt ttgccattat gggtatgttc catcagttat tctgttcact tatattgctt 4380  
 109 ctttcacctt taagaaaatt ttaaatacca aagaattttg gtcattttatc tattctgtgg 4440  
 110 ~~cagcgtttgc ttgtattgca atcactgaaa taactttctt tatgggatac acaattgcaa 4500~~  
 111 ctattcttca ttatgccttt tgtatcatca ttccaatcta tccacttcta ggttgcctga 4560  
 112 tttctttcat aaagatttct tggagaatg tacgaaaaaa tgtggacacc tataatccat 4620  
 113 gggataggct ttcagtagct gttatatcgc cttacctgca gtgtgtactg tggattttcc 4680  
 114 tcttacaata ctatgagaaa aaatatggag gcagatcaat aagaaaagat cccctttttca 4740  
 115 gaaacctttc aacgaagtct aaaaatagga agcttccaga accaccagac aatgaggatg 4800  
 116 aagatgaaga tgtcaaagct gaaagactaa aggtcaaaga gctgatgggt tgccagtgtt 4860  
 117 gtgaggagaa accatccatt atggtcagca atttgcataa agaatatgat gacaagaaag 4920  
 118 attttcttct ttcaagaaaa gtaaagaaag tggcaactaa atacatctct ttctgtgtga 4980  
 119 aaaaaggaga gatcttagga ctattgggtc caaatggtgc tggcaaaagc acaattatta 5040  
 120 atattctggt tgggtgatatt gaaccaactt caggccaggt attttttagga gattattctt 5100  
 121 cagagacaag tgaagatgat gattcactga agtgtatggg ttactgtcct cagataaacc 5160  
 122 ctttgtggcc agatactaca ttgcaggaaac attttgaaat ttatggagct gtcaaaggaa 5220  
 123 tgagtgaag tgacatgaaa gaagtcataa gtccaataac acatgcactt gattttaaag 5280  
 124 aacatcttca gaagactgta aagaaactac ctgcaggaat caaacgaaag ttgtgttttg 5340  
 125 ctctaagtat gctagggaat cctcagatta ctttgcctaga tgaaccatct acaggtatgg 5400  
 126 atcccaaagc caaacagcac atgtggcgag caattcgaac tgcattttaa aacagaaagc 5460  
 127 gggctgctat tctgaccact cactatatgg aggaggcaga ggctgtctgt gatcgagtga 5520  
 128 ctatcatggt gtctgggcag ttaagatgta tcggaacagt acaacatcta aagagtaaat 5580  
 129 ttggaaaagg ctactttttg gaaattaaat tgaaggactg gatagaaaac ctagaagtga 5640  
 130 accgccttca aagagaaatt cagtatatatt tcccaatgc aagccgtcag gaaagttttt 5700  
 131 cttctatttt ggcttataaa attcctaagg aagatgttca gtccctttca caatcttttt 5760  
 132 ttaagctgga agaagctaaa catgcttttg ccattgaaga atatagcttt tctcaagcaa 5820  
 133 cattggaaca ggtttttgta gaactcacta aagaacaaga ggaggaagat aatagtgtgt 5880  
 134 gaactttaaa cagcacactt tgggtgggaa gaacacaaga agatagagta gtattttgaa 5940  
 135 tttgtattgt tcggtctgct tactgggact tctttctttt tcacttaatt ttaactttgg 6000  
 136 tttaaaaagt tttttatttg aatggtaact ggagaaccaa gaacgcactt gaaatttttc 6060  
 137 taagctcctt aattgaaatg ctgtggttgt gtgttttgtt tttcttttaa taaaacgtat 6120  
 138 gtataattaa gtgaagctgc atgtttgtat tgaagtatat tgaactatat agtttgtatg 6180  
 139 tcatcttttt caccattcag aaacagtgtc tctgaatttg tgattttaaag gaattgtaat 6240  
 140 agaatagttt tattttttaag ttatctttta gtttatgcca tcttctttaa taagtacgta 6300  
 141 atgttccaa ctataataaa aactaataca taactaatgc atagaaaaga tacataaagc 6360  
 142 aatgtgaag tttcttgctt ctctttttta atttctaaaa aagccacttt gaatggaagt 6420  
 143 tgtcatccgt aaaagctgaa gtgtaagcac taggaaatct caatatagag atttgaggaa 6480  
 144 agttatatcc actaggtggc agtcattgat cataataagt gaaat 6525  
 352 <210> SEQ ID NO: 4  
 353 <211> LENGTH: 6181  
 354 <212> TYPE: DNA  
 355 <213> ORGANISM: Homo sapiens  
 357 <400> SEQUENCE: 4

see  
p8

p4

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

E--&gt;

```

358 aattaatttt acttaggata agtgttggtta ttattgtttt tattgttggtt ctgttagtta 60
359 ctcaaaactt cattctaatt gtgccctgag ttgtttaaaa taccatactg tttttttgtg 120
360 taacatgtaa ataggcatta attttttgaga aatagaaatg tttatcetta atgtattttt 180
361 aatttgctaa cattgatttt ttatttttctt tcttgaaata gcttatttcc taaaatgaaa 240
362 gaatttatct tcagatgaat aattttttata tcagctattc ttatcagagc aataaacaac 300
363 taccaatgat gcgctcagcc aacaattcat tacactctct gaagagtaac tggacaagga 360
364 gaaaaacata gggaaaaaac caacagaatt tgttggcatg ttctacacac agaccatggc 420
365 ttttcagaag ccaagctgaa taaaaacagt tttaaaagag gcaaccattt gtagaggagt 480
366 ccttgaagga ttcttcattg ttttcttgga caaaaagaga ccagtggatc caagtgtctc 540
367 aaatacttct ctcttatttt cttaactcta ttgctctgca atatttactt taccctgtta 600
368 atgaacagga caaaatgggt aaaaagaga taagcgtgcg tcaacaaatt caggctcttc 660
369 tgtacaagaa ttttcttaaa aaatggagaa taaaagaga gtttattgga atggacaata 720
370 acattgtttc tagggctata ttgtgtcatc ttttcggaac acttcagagc taccctgttt 780
371 cctgaacaac ctcttaaagt cctgggaagc gtggatcagt ttaatgactc tggcctggta 840
372 gtggcatata caccagtcag taacataaca caaaggataa tgaataagat ggcttggct 900
373 tcttttatga aaggagaac agtcattggg acaccagatg aagagaccat ggatatagaa 960
374 ctccaaaaa aataccatga aatgggtgga gttataatga gtgatacttt ctcatatcgc 1020
375 ctgaagttta attggggata tagaatccca gttataaagg agcactctga atacacagaa 1080
376 cactgttggg ccatgcatgg tgaaattttt tgttacttgg caaagtactg gctaaaaggg 1140
377 tttgtagctt tcaagctgc aattaatgct gcaattatag aagtcacaac aaatcattct 1200
378 gtaatggagg agttgacatc agttattgga ataaatatga agataccacc tttcattttc 1260
379 aaggggagaaa ttatgaatga atgggttcat tttacttget tagtttcttt ctcttctttt 1320
380 atatactttg catcattaaa tgttgcaagg gaaagaggaa aatttaagaa actgatgaca 1380
381 gtaatgggtc tccgagagtc agcattctgg ctctctggg gattgacata catttgcttc 1440
382 atcttcatta tgtccatttt tatggctctg gtcataacat caatctcaat tgtatttcat 1500
383 actggcttca tgggtgatatt cacactctat agcttatatg gcctttcttt gatagcattg 1560
384 gctttcctca tgagtgtttt aataaggaaa cctatgctcg ctgggttggc tggatttctc 1620
385 ttcactgtat tttggggatg tctgggattc actgtgttat acagacaact tcttttatct 1680
386 ttgggatggg tattaagtct tcttagcctt tttgccttca ctgctggaat ggcccagggt 1740
387 acacacctgg ataattactt aagtgtgtt attttctctg atccctctgg ggattcatac 1800
388 aaaatgatag ccactttttt cattttggca tttgatactc ttttctattt gatattcaca 1860
389 ttataatttg agcgagtttt acctgataaa gatggccatg gggattctcc attatttttc 1920
390 cttaagtctt cattttgggt caaacatcaa aatactcatc atgaaatctt tgagaatgaa 1980
391 ataaatcttg agcattctct tgatgattct tttgaaccgg tgtctccaga attccatgga 2040
392 aaagaagcca taagaatcag aaatgttata aaagaatata atggaaagac tggaaaagta 2100
393 gaagcattgc aaggcatatt ttttgacata tatgaaggac agatcactgc aatacttggg 2160
394 cataatggag ctggtaaatc aacactgcta aacattctta gtggattgtc tgtttctaca 2220
395 gaaggatcag ccactattta taatactcaa ctctctgaaa taactgacat ggaagaaatt 2280
396 agaaagaata ttggattttg tccacagttc aattttcaat ttgacttctt cactgtgaga 2340
397 gaaaacctca gggattttgc taaaataaaa gggattcagc caaaggaagt ggaacaagag 2400
398 gtaaaaagaa ttataatgga attagacatg caaagcattc aagacattat tgctaaaaaa 2460
399 ttaagtgggt ggcagaagag aaaactaaca ctagggttg ccactctagg agatcctcag 2520
400 gttttgtctg tagatgaacc aactgctgga ttggatccct tttcaagaca ccgagtgtgg 2580
401 agcctcctga aggagcataa agtagaccga cttatctctt tcagtaccca attcatggat 2640
402 gaggtgaca tcttggtgta taggaaagta tttctgtcta atgggaagtt gaaatgtgca 2700
403 ggatcatctt tgtttctgaa gcgaaagtgg ggtattggat atcatttaag tttacacagg 2760
404 aatgaaatgt gtgacacaga aaaaatcaca tcccttatta agcagcacat tctgatgcc 2820
405 aagttaacaa cagaaagtga agaaaaactt gtatatagtt tgcctttgga aaaaacgaac 2880
406 aaatttccag atctttacag tgaccttgat aagtgttctg accagggcac aaggaattat 2940

```

→ see p. 8

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

```

407 gctgttttcag tgacatctct gaatgaagta ttcttgaacc tagaaggaaa atcagcaatt 3000
408 gatgaaccag attttgacat tgggaacaa gagaaaatac atgtgacaag aaatactgga 3060
409 gatgagtctg aaatggaaca ggttctttgt tctcttcctg aaacaagaaa ggctgtcagt 3120
410 agtgcagctc tctggagacg acaaacttat gcagtggcaa cacttcgctt cttaaagtta 3180
411 aggcgtgaaa ggagagctct tttgtgtttg ttactagtac ttggaattgc ttttatcccc 3240
412 atcattctag agaagataat gtataaagta actcgtgaaa ctcatgtttg ggagttttca 3300
413 cccagtatgt atttccttct tctggaacaa atcccgaaga cgctcttac cagcctgtta 3360
414 atcgtaata atacaggatc aaatattgaa gacctcgtgc attcactgaa gtgtcaggat 3420
415 atagttttgg aaatagatga ctttagaaac agaaatggct cagatgatcc ctctacaa 3480
416 ggagccatca tagtgtcttg tgaccagaag gattacagat tttctgttgc gtgtaatacc 3540
417 aagaaattga attgttttcc tgttctttg ggaattgtta gcaatgccct tatgggaatt 3600
418 ttttaacttca cggagcttat tcaaacggag agcaattcat tttctcgtga tgacatagt 3660
419 ctggatcttg gttttataga tgggtccata ttttgtttgt tgatcacaaa ctgcgtttct 3720
420 ccttttatcg gcatgagcag catcagcgat tataaaaaaa atgttcaatc ccagttatgg 3780
421 atttcaggcc tctggccttc agcatactgg tgtggacagg ctctggtgga cattccatta 3840
422 tacttcttga ttctcttttc aatacattta atttactact tcatatttct gggattccag 3900
423 ctttcatggg aactcatggt tgttttgggt gtatgcataa ttggttgtgc agtttctctt 3960
424 atatttctca catatgtgct ttcattcatc tttcgcaagt ggagaaaaaa taatggcttt 4020
425 tggctctttg gcttttttat tatcttaata tgtgtatcca caattatggt atcaactcaa 4080
426 tatgaaaaac tcaacttaat tttgtgcatg attttcatac ctctcttcac tttgctgggg 4140
427 tatgtcatgt tattgatcca gctcgacttt atgagaaact tggacagtct ggacaataga 4200
428 ataaatgaag tcaataaaac cattctttta acaaccttaa taccatacct tcagagtgtt 4260
429 attttccctt ttgtcataag gtgtctggaa atgaagtatg gaaatgaaat aatgaataaa 4320
430 gaccagttt tcagaatctc tccacggagt agagaaactc atcccaatcc ggaagagccc 4380
431 gaagaagaag atgaagtatg tcaagctgaa agagtccaag cagcaaatgc actcactgct 4440
432 ccaaacttgg aggaggaacc agtcataact gcaactgttt tacacaagga atattatgag 4500
433 acaaagaaaa gttgtctttc aacagaagaa aagaaaatag ccatcagaaa tgtttccttt 4560
434 tgtgttaaaa aaggtgaagt tttgggatta ctaggacaca atggagctgg taaaagtact 4620
435 tccattaaaa tgataactgg gtgcacaaag ccaactgcag gagtgggtgt gttacaaggc 4680
436 agcagagcat cagtaaggca acagcatgac aacagcctca agttcttggg gtactgccct 4740
437 caggagaact cactgtggcc caagcttaca atgaaagagc acttggagtt gtatgcagct 4800
438 gtgaaaggac tgggcaaaga agatgctgct ctcagtattt cacgattggt ggaagctctt 4860
439 aagctccagg aacaacttaa ggctcctgtg aaaactctat cagagggaaat aaagagaaag 4920
440 ctgtgctttg tgetgagcat cctggggaac ccatcagtgg tgcttctaga tgagccgttc 4980
441 accgggatgg accccgaggg gcagcagcaa atgtggcaga tacttcaggc taccgttaaa 5040
442 aacaaggaga ggggcaccct cttgaccacc cattacatgt cagaggctga ggctgtgtgt 5100
443 gaccgtatgg ccatgatggt gtcaggaacg ctaagggtga ttggttccat tcaacatctg 5160
444 aaaaacaagt ttggtagaga ttatttacta gaaataaaaa tgaaagaacc taccaggtg 5220
445 gaagctctcc acacagagat tttgaagctt ttcccacagg ctgcttggca ggaaagatat 5280
446 tctcttttaa tggcgtataa gttacctgtg gaggatgtcc accctctatc tcgggccttt 5340
447 ttcaagttag aggcgatgaa acagaccttc aacctggagg aatacagcct ctctcaggct 5400
448 accctggagc aggtattctt agaactctgt aaagcagagg agctgggaaa tgttgatgat 5460
449 aaaattgata caacagttga atggaaactt ctcccacagg aagaccctta aaatgaagaa 5520
450 cctcctaaca ttcaatttta ggtcctacta cattgttagt ttccataatt ctacaagaat 5580
451 gtttctcttt acttcagtta acaaaagaaa acatttaata aacattcaat aatgattaca 5640
452 gttttcattt ttaaaaattt aggatgaagg aaacaaggaa atatagggaa aagtagtaga 5700
453 caaaattaac aaaatcagac atgttattca tcccacacat gggcttattt tgtgcttaaa 5760
454 aataatttaa aaatcataca atattaggtt ggttttcggt tattatcaat aaagctaaca 5820
455 ctgagaacat tttaaaaata aaaatatgag ttttttagcc tgaacttcaa atgtatcagc 5880

```

## RAW SEQUENCE LISTING

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:38

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

456 tattttttaaa cattattttac tcggatttcta attttaatgtg acatttgacta taagaaggctc 5940  
 457 tgataaaactg atgaaatggc acagcataac atttaattat aatgacattc tgattataaa 6000  
 458 ataaatgcat gtgaatttta gtacatattg aagttatatg gaagaagata gccataatct 6060  
 459 gtaagaaagt accgcagtta atattttctt tagccaactt atattcaatg tattttttat 6120  
 460 ggatcctttt tcaaaggtag tatcagtagg catagtcatt ttctgtatct ttccacctca 6180  
 461 c 6181

2642 &lt;210&gt; SEQ ID NO: 94

2643 &lt;211&gt; LENGTH: 142

2644 &lt;212&gt; TYPE: DNA

2645 &lt;213&gt; ORGANISM: Homo sapiens

2647 &lt;400&gt; SEQUENCE: 94

E--> 2648 gctctcctgg ngattgacat acatttgctt catcttcatt atgtccattt ttatggctct 60

2649 ggtcataaca tcaatctcaa ttgtatttca tactggcttc atgggtgatat tcacactcta 120

2650 tagcttatat ggcctttctt tg 142

3808 &lt;210&gt; SEQ ID NO: 217

3809 &lt;211&gt; LENGTH: 19

3810 &lt;212&gt; TYPE: DNA

3811 &lt;213&gt; ORGANISM: Homo sapiens

3813 &lt;400&gt; SEQUENCE: 217

3814 gagcttaaga gcttccacc 19

E--&gt; 3820 (1)

*delete**7 p. 8*

## VARIABLE LOCATION SUMMARY

DATE: 06/05/2002

PATENT APPLICATION: US/10/005,338A

TIME: 09:57:40

Input Set : A:\PTO.PG.txt

Output Set: N:\CRF3\06052002\J005338A.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of &lt;220&gt; to &lt;223&gt; is MANDATORY if n's or Xaa's are present.

in &lt;220&gt; to &lt;223&gt; section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:1; N Pos. 4449

Seq#:4; N Pos. 1420

Seq#:5; Xaa Pos. 1147

Seq#:8; Xaa Pos. 181

Seq#:94; N Pos. 11